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BOATSTEWARD

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GSM Boat Monitor
User manual

1. System Foreword

This wireless GSM intelligent monitoring system is built on leading microprocessor technology with advanced GSM digital signal processing power. It is a highly integrated system of text messages, multiple mode's of wireless coding, long-distance appliances controlling, short messages identification and other technologies. When alarming, it will automatically inform of the alerting device and location through text messages. It is stable, reliable and safe. With human manipulation and telecom phone line removed, it can be comprehensively applied to places at which wire phone networks can NOT cover protection needed. It is able to protect users property and personnel safety.

2. General introduction of functions

■ten zones set as normal, stay safe, intelligent, emergency, open or closed types, etc.;
■Using phone (cellphone) or SMS to configure & control the panel remotely.
■ Four wired zones, six wireless zones, each zone can be equipped with many accessories.
■ Three groups of phone numbers for SMS messages.
■One normally open signal output, which can be externally linked to operate heating etc.
■ Built-in short message contents. Short message content from alarming zone can be amended.
■Wireless intelligent study coding, compatible with 2,262 normal encoding and a million group encoding, convenient and flexible for adding or reducing accessories.
■Telephone long-distance telecontrol for arming, disarming, and controlling appliances.
■EEPROM information protection, information will never be lost.
■Built-in NI-Lithium battery will automatically be transferred to stand-by after outage with short message prompting.
■DC supply and(standby), twenty-four-hour normal guarding and unbroken service.
■Panel using double, triple or quadruple GSM/GPRS wireless industry module, (depending on model) which is stable and reliable.

3. Manipulation specification

3.1 Arming

Arming means that all detectors are working. When something triggers the detectors, the alerting system will alarm at once. After arming operation, the **S**et light on the panel will remain on.

Remote control operation: pressing on the arming key in the remote-control-unit once will Set..

3.2. Stay (safe) arming

Stay is for arming the Man Overboard Board fobs, and/or (gas detector, smoke detector) and bilge alarm. When armed the **S**et light on the panel will flicker.

Remote control operation: pressing on the arming key then the stay key in the remote-control-unit (once each) will Set.

3.3 Disarming operation

Disarming means that when the panel alerts, it can stop the alerting or put the system into disarm status. After disarming, even triggering detectors can NOT make the panel alert, except for the detectors in emergency Defense zone's (Bilge level, Smoke Detector, Gas Detector) or the emergency key in the remote-control-unit. After disarming, arming light goes out.

3.4 Emergency alerting

If an emergency arises, press on the emergency key in the remote-control-unit or the man

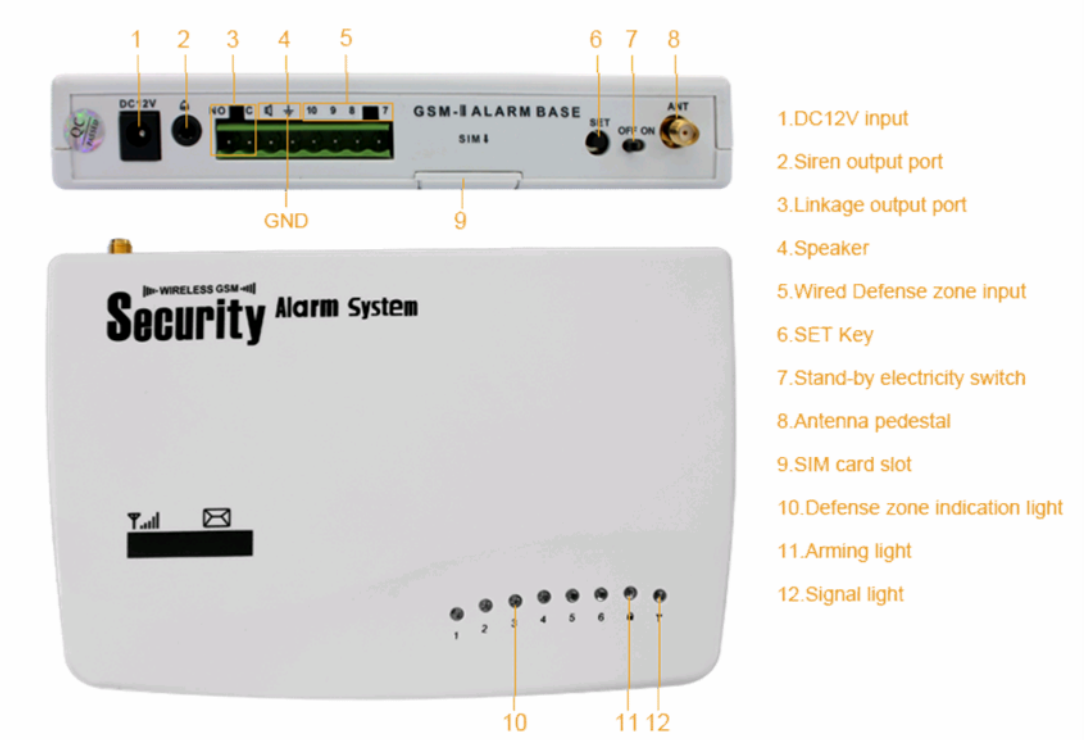
overboard fobs this in turn will operate the sounder and send a text message.

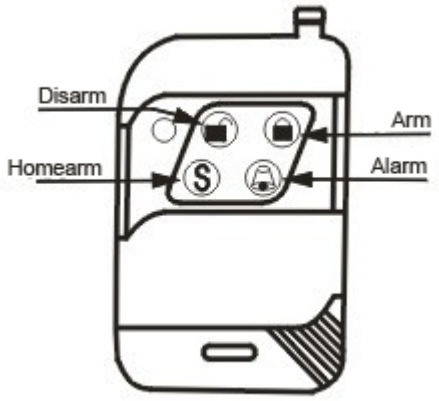
4. Installation and debugging

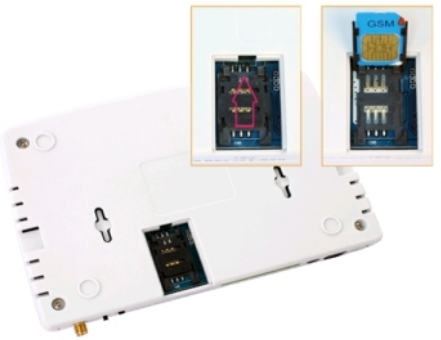
■host and SIM card installation

The panel should be installed in a central zone of the monitored area so as to make sure that all wireless detectors can be best received. Take care to keep away from large-scale metal objects or appliances with high-frequency interference..

The control panel :







5. The host settling

■ **indicating information**

function	Signal	Interpretation
Buzzer	Short “Beep” once	Key-pressing indication
	Long “Beep” once	Confirm receipt of a key stroke

	Continuous short “Beep” for 2 times	Correct command received
	Continuous short “Beep” for 3 times	Error in command
	“Beep” at moderate intervals	SIM card not found
Defense Zone LED	Always lit	Defense zone alerting
	Blinking	Defense zone coming into delayed alerting
Arming LED	Always lit	Arming status
	Blinking quickly	Stay safe arming status
	Blinking slowly	Coming into delayed arming status
GSM signal LED	Blinking every 1 second	GSM signal weak, or SIM card not found
	Blinking every 3 seconds	GSM module, and SIM card working properly
	Not lit	Without electricity

■first-time energization

Upon correctly installed SIM card, all wired sensors (if applicable) and antenna, the DC power can be connected. Upon power up, the alarm panel will carry a self-test sequence as below:

- Six Defense Zones’ LED and two Functional LED’s on front panel will flash in order once and end with a buzzer long “Beep”.
- The GSM Signal LED flashes with one second interval for checking the GSM signal.
- If GSM network detected all right, “Beep” sound stops and Signal LED becomes flashing every three seconds, the GSM signal and SIM card are all confirmed normal, system is READY.

  Now, switch the stand-by battery switch to “ON”..

■remote control coding

Remote control coding

When the alarm panel is disarmed, follow the steps below to add remote control’s to panel.

1. Press the [SET] key once and release immediately, alarm panel returns one short “Beep” and all Defense zone LED’s light, this is the configuration mode for remote control coding.
2. Press any key on the remote control to trigger a wireless signal to the Panel.
3. When the panel receives signal and “Beep” twice, it means remote control (keyfob) has been added to the panel successfully, this remote control can now be used to control the panel. If the panel receives a signal and “Beep” only once, it means remote control (keyfob) has been learned before.
4. All remote controls required can be configured by repeating step (3) above.
5. Pressing [SET] key again and again until all Defense zone LED off to exit the configuration model and system READY again.

   Note: The Panel allows a maximum of 20 remote control (keyfob’s).

Remote control deletion

When the panel is disarmed, follow the steps below to delete remote control to panel.

1. press the [SET] key once and release immediately, alarm panel returns one short “Beep”

and all Defense zone LED's light, this is the configuration mode for remote control coding.

2. Then press and hold the [SET] key for 3 seconds, panel "Beep" for a long time and when all Defense zone LED's go out, then all remote control's have been deleted.

Note: For the remote control (keyfob) deletion operation, one operation will delete all remote control (keyfob's).

■Defense zone coding

Defense zone coding

When the alarm panel is disarmed, follow the steps below to add sensors or detectors to panel.

1. Press the [SET] key once and release immediately, alarm panel returns one short "Beep" and all Defense zone LED's light, this is the configuration mode for remote control coding.
2. Press [SET] key once and release immediately, Defense Zone 1 LED on, this is the configuration mode of zone 1.
3. Trigger the detector(s)for this zone to send a wireless signal to the Panel.
4. When the panel receives the signal and "Beep" twice, it means the detector has been added to the panel successfully. Repeat this step for all detectors in this zone.
5. If panel receives signal and "Beep" only once, it means this detector has been learned before. If panel receives signal and "Beep" for 3 times, it means error.
6. By pressing [SET] you can step to each zone and repeat step 3 for detectors in all zone's.
7. Pressing [SET] key again and again until all Defense zone LED off to exit the configuration model and system READY again.

Note: The panel can learn up to 32 detectors of different types.

Deleting sensors from the panel

When the panel is disarmed, follow the steps below to delete sensors from the panel..

1. Press the [SET] key once and release immediately, alarm panel returns one short "Beep" and all Defense zone LED's are lit, this is the configuration mode for remote control coding.
2. Press [SET] key once and release again until the LED of the Defense zone wanted is on, this is the configuration mode of your target zone.
3. Then press and hold the [SET] key for 3 seconds, panel "Beep" for a long time and when all Defense zone LED's go out, then all detectors in this zone have been deleted.

Guideline for Installing Magnetic sensor

1. The surface for sensor installation should be clean so that the sensor can be attached to the door and frame firmly with double faced adhesive or alternatively fixed.
2. Each sensor comprises of sensor and magnet. The sensor should be installed on the fixed frame and the magnet should be placed on the movable surface with a distance not exceeding 6mm.

Guideline for Installing PIR Motion Sensor

1. Installation height is about 2.2 meters above ground and the optimized detection angle for most motion detectors is 90 degree's. The sensor should face the detected

area with this consideration for best coverage.

3. Within coverage of detection, there should not be any objects for obstruction.
4. There should be not be two infrared detectors in the same area as they will possibly intervere with each other.
5. Avoid the IR detector facing direct sunlight, cooling or heating airflows, or other appliances that cause the temperature changing sharply and thus cause false alarm.
6. Most infra-red detector need about 5 minutes to heat up before they are READY for normal operation.
7. Unless specified otherwise, most infra-red detector are indoor use and not reliable for use outdoor.

6. Cell phone long-distance-control programming

■All programming for this panel are accomplished through cell phone or fixed phone call to the host GSM card, by pressing on the keys in fixed phones or cell phones or sending short messages via cell phone.

On working status, and the GSM network detection is normal. Use cell phone or fixed phone to dial SIM card number in the panel, it will automatically receive the call. After pick up by the panel, enter the password, the default password is 1234, then press # key to enter phone long-distance function settling.

■General Command Syntax

There are two methods of configuring the alarm panel; they are sending SMS command to panel via mobile phone and interactive setup using any analog phone set.

1) General command pattern sent via SMS is

[password] + [command] + [parameter] + #

e.g. setting SMS phone no.

1234379999999#

2) general input sequence sent via phone interactively is

- call in
- key in password
- key in #
- key in [command]
- key in [parameter]
- key in #

using the above same example, no. need to key in one by one after receipt of the confirmation beep

1234#37999999#

Number setting and function setting command as follow:

[12]+[0/1]+[#]	Disable and enable SMS Messages function ● 0 means not activated. ● 1 means activated ● Default: activated ● Example: to disable SMS Messages function, send SMS Messages 1234120#, or using phone should input 1234 # 12 0 #

[31]+[phone number]+[#]	Add (or delete) 1st group of phone number for voice calling upon alarm triggered ● Example: if the user wants to add phone number 12345678, send SMS Messages 12343112345678#, or using phone should input 1234 # 31 12345678 # ● Example: if the user wants to delete 1st group number, send SMS Messages 123431#, or using phone should input 1234 # 31 #
[32]+[user number]+[#]	Add (or delete) 2nd group of phone number for voice calling upon alarm triggered
[33]+[user number]+[#]	Add (or delete) 3rd group of phone number for voice calling upon alarm triggered
[34]+[user number]+[#]	Add (or delete) 4th group of phone number for voice calling upon alarm triggered
[35]+[user number]+[#]	Add (or delete) 5th group of phone number for voice calling upon alarm triggered
[36]+[user number]+[#]	Add (or delete) 6th -group of phone number for voice calling upon alarm triggered
[37]+[user number]+[#]	Add (or delete) 1st group of phone number for receiving SMS messages ● Example: if the user wants to add phone number 12345678, send SMS Messages 12343712345678#, or using phone should input 1234 # 37 12345678 # ● Example: if the user wants to delete second-group number, send SMS Messages 123437#, or using phone should input 1234 # 37 #
[38]+[user number]+[#]	Add (or delete) 2nd group of phone number for receiving SMS messages
[39]+[user number]+[#]	Add (or delete) 3rd group of phone number for receiving SMS messages
[50]+[new password]+[#]	Modify user operation password ● For example: if user wants to set new user password as 4321, please send SMS Messages 1234504321# , or using phone should input 1234 # 50 4321 #
[51]+[00-99]+[#]	Set Delayed Arming, when press the arming key from the remote control, it will not enter into arming status immediately but delay for a certain number of second ● Range: From 0 to 99 seconds. ● For example: set delayed arming for 10 seconds, send SMS Messages 12345110#, or using phone should input 1234 # 51 10 #
[52]+[00-99]+[#]	Set Delayed Alarming, on the arming status, if a detector is triggered, the Panel will not alarm at once. It will delay a certain time before making voice calling, sending SMS message or sound the siren. ● Range: The time can be set from 0 to 99 seconds. ● For example: set delayed alarming time as 10 seconds, send SMS Messages 12345210#, or using phone should input 1234 # 52 10 #
[53]+[00-20]+[#]	Setting the siren sounding time when the Panel triggered. ● Default time is 1 minutes ● Range: From 1-20 minutes. ● For example: if you want to set the siren alerting time 5 minutes,

	send 12345305#, , or using phone should input 1234 # 53 05 #
[54]+[0/1]+[#]	Open and close of alerting linkage. If the Panel alerts, need the relay open linkage or not, 1 means linkage needed, and 0 not. ● For example: Panel relay output is connected to flashlight and other equipment. If output alerting, it needs linkage blinking. Send SMS Messages 1234541#. When the Panel triggered, the output relay at the back of the Panel will be connected, and external equipment will start up. Telephone setting: just press those key on the phone.
[55]+[0/1]+[#]	Used to set whether the siren sounds when the panel is set or unset via remote control. ● Value: 1 means sound, and 0 not. ● Default is: making sound. ● For example: send SMS Messages 1234551#, meaning siren without indicating voice when arming and disarming by remote control (keyfob). Telephone setting: just press those key on the phone.
[56]+[AAAA]+[#]	Used to set system time. ● For example: to set system time as half past 20 o'clock, send SMS Messages 1234#562030#. This means to set system time as half past 20 o'clock. Telephone setting is just press those key on the phone.

[57]+[AAAA]+[BBBB]+[#]	Used to set first group of timing arming and disarming. ● For example: send SMS Messages 12345722000700# to Panel. This means from 22 o'clock at night, it automatically enters into arming status, and automatically disarms at 7 o'clock in the morning. Telephone setting is just press those key on the phone.
[58]+[AAAA]+[BBBB]+[#]	Used to set second group of timing arming and disarming. ● For example: send SMS Messages 12345812001300# to Panel. This means from 12 o'clock at noon, it automatically enters into arming status, and automatically disarms at 13 o'clock in the afternoon, telephone setting just press those key on the phone.
[60]+[AA]+[B]+[C]+[#]	This command is used to set six Defense zones status. ● AA is double subarea and 01 to 06 means Defense zones 1 to 6. ● B means the type of Defense zone. 1 means NORMAL Defense Zone, 2 means STAY SAFE Defense zone, 3 means INTELLIGENT Defense zone, 4 means EMERGENCY Defense zone, 5 means CLOSED Defense zone. ● C has two types of status. 0 means siren no sound when alarming, 1 means siren sound when alarming. ● For example: to set 5th Defense zone as NORMAL Defense Zone,

	and the 5th Defense zone alarming requires siren sounding, send SMS Messages 1234600511#

[61]+[AA]+[B]+[C]+[D]+[#]	This command is used to set the status of the four wired Defense zones. ● AA is double subarea, use 07 to 10 to refer to Defense zones 7 to 10. ● B means the type of Defense zone. 1 means NORMAL Defense Zone, 2 means STAY Defense zone, 3 means INTELLIGENT Defense zone, 4 means EMERGENCY Defense zone, 5 means CLOSED Defense zone. ● C has two types, 0 and 1. 0 means no rings in that Defense zone when alerting. 1 means ringing in that Defense zone when alerting. ● D has two types, 0 and 1. 0 means open circuit alerting and 1 means short circuit alerting. ● For example: set Defense zone 7 as EMERGENCY Defense zone, no siren ringing when the 7th Defense zone alerts, and short circuit alarming, send SMS Messages 12346107101#
[13]+[0000]+[#]	This command to restore the factory default setting. ● This command will only delete the password, but not delete the remote control and sensors already programmed. ● For example: if you need to restore the factory default setting, send 1234130000# to the main unit. ● If the users forget the password, thento restore the device you need to use **Forced Restore**. Steps are ■ Turn off the back-up battery switch and AC power ■ Press and hold RESET button at the back while turn on the power ■ Keep press and hold the RESET button for about 5 seconds until the buzzer gives one long “Beep” and all LED flash in sequence, then release RESET button, all setting deleted, phone number deleted, password return to 1234, all remote control and sensors deleted, alarm panel fully returned to factory setting.

Operation Commands

Following commands only for SMS Messages long-distance operation and settlement:

0#	Long-distance SMS Messages disarming, send SMS Messages 12340#
1#	Long-distance SMS Messages arming, send SMS Messages 12341#
2#	Long-distance SMS Messages STAY arming, send SMS Messages 12342#

3#	Long-distance SMS Messages Relay closing, send SMS Messages 12343#
4#	Long-distance SMS Messages Relay opening, send SMS Messages 12344#
[20]+[#]	To inquire arming and disarming status. send SMS Messages 123420#
[21]+[#]	To inquire alerting number and alert-receiving number configured in the panel. send SMS Messages 123421#
[80]+[#]	Used to inquire SMS Messages contents from all Defense zones. ● For example: send SMS Messages 123480#
[81]+[Defense zone one, SMS Messages content]+[#]	Used to set SMS Messages content given by Panel when the first Defense zone alerts. SMS Messages content can NOT exceed twelve characters. ● For example: send SMS Messages “123481 the front door is opened # ” At that time, when the first Defense zone is triggered, the SMS Messages of “the front door is opened” will be sent to the short-message alarming number.
[82]+[Defense zone two, SMS Messages content]+[#]	Used to set SMS Messages content given by Panel when the second Defense zone alerts. ditto
[83]+[Defense zone two, SMS Messages content]+[#]	Used to set SMS Messages content given by Panel when the third Defense zone alerts. ditto
	The forth to ninth Defense zone can be inferred as above.
[90]+[Defense zone ten, SMS Messages content]+[#]	Used to set SMS Messages content given by Panel when the tenth Defense zone alerts. ditto

■Telephone alert-receiving

After host alerts, it will automatically dial all pre-set telephones and cell phones in sequence. When the user picks up the phone, it will immediately broadcast alerting record and let user obtain the alarming information.

After receiving the phone, if you only listen to alerting voice without long-distance control, please directly hang up, the host will continuously dial the latter phone for alerting, until someone picks up. If there is no person to receive the calls, the host will dial all phones in circulation for three times, then automatically hang up and at the same time, it conducts long-distance remote control on the alerting host through telephone and cellphone keyboard operation:

【1】key: Arming　　【2】key: Disarming

【3】key: Monitoring　　【4】key: Monitoring closed

【5】key: Talkback open　　【6】key: Talkback closed

【7】key: Siren ringing　　【8】key: Siren closed

【9】key: Relay open　　【0】key: Relay Closed

【*】key; Quits from the status and hang up, the system will not dial the next group of numbers.

NOTE: monitoring time is 20 seconds. If you wish to continue to monitor, user needs to press “3”key again. To support talkback function, the host needs to connect to another passive loudspeaker, which is 8 ohm and its power above 0.5W.

■Telephone long-distance operation

Dial the phone number connected to the alerting panel through telephone or cell phone. After a cycle of ringing, input password, default password is 1234, then pressing phone or cell phone keys.

Complete operation is as follows:

【1】key: Arming 【2】key: Disarming

【3】key: Monitoring 【4】key: Monitoring closed

【5】key: Talkback open 【6】key: Talkback closed

【7】key: Siren ringing 【8】key: Siren closed

【9】key: Relay open 【0】key: Relay Closed

【*】key; Quits from the status and hang up, the system will not dial the next group of numbers.

【#】key: Enter the system settling.

If without any operations, the host will automatically hang up and quit after 20 seconds.

7. Note: Difference between Defense Zone Types:

- NORMAL Defense Zone: the Panel only works on the arming status. When disarming, there is no response.
- STAY (SAFE) Defense zone: can be shut off solely through the remote control (keyfob) to ensure no external influence will cancel the man overboard function..
- INTELLIGENT Defense zone: if the detector in the Defense zone is triggered only once, it will not immediately alarm. But if being triggered once again within 30 seconds after the first triggering, it will alarm immediately.
- EMERGENCY Defense zone: no matter on arming or disarming status, if detector is triggered it will alert. Usually used in connection with Smoke Detectors, Gas Detectors and emergency button, etc.
- CLOSED Defense zone: no matter arming or disarming status, detectors will not alert even being triggered.

8. Leaving-factory default

Password:	**1234**		
Long-distance control:	**Open**	**Ringing times:**	**once**
Siren timing:	**1 minute**	**Aural remote control siren:**	**open**
Delayed arming:	**0second**	**Delayed alerting:**	**0 second**

9. System Specification

- Input voltage: DC 9V – 12V
- Standby current: ＜25mA
- Alerting current: ＜450 mA
- Wireless frequency: 315/433/868/915MHZ, 2262/1.5--4.7M, EV1527/300K.
- GSM SYSTEM: supporting GSM850/900/1800/1900MHz
- Standby battery: NI-HI AAA*6 DC7.4V
- Siren loudness: 110dB
- Accessories parameters: this annunciator is compatible with PT2262 code; PT2240 code and EV1527 shorten code. In use of PT2262 code, timing resistor is suggested 1.5M to 4.7M. In use of EV1527 shorten code, timing resistor is 300K. The address code A0-A7 of door status switch, infrared and other accessories can be any code. We do not suggest it is all empty. Data code D3-D0 is any code except 0001, 0010, or 0100. It is suggested to use 1010.

11. Troubleshooting

Problem	Probable Reasons	Available Solutions
1. Alarm does not dial out.	• no arming • alerting phone incorrectly set • parts improperly installed • code no match • SIM card overdue	• do arming operation • re-set according to the specification • coordinating the location of parts • re-coding • 5. pay to the SIM card
2. cannot long-distance operation	• password input wrongly (or forgotten)	• retry password or reset password
3. no record indication when alerting	• voice message not recorded	• record voice message
4. remote control (keyfob) out of order	• coding un-matched with the Panel • insufficient battery power • battery pieces poor contact or voltage un-matched with Panel	• re-learn the remote control • change battery to correct type • contact the local dealer to change the matched remote control (keyfob)
5. infrared detector out of order	• low power	• change to the same type battery
6. siren without sound	• siren plug or jack in short circuit or broken-line • siren out of order • closed siren by command • positive and ground wires of siren reversed	• repair or change plug or jack • change the jack line • activate siren by command • use another siren to double check • reverse the wires to try
7. the transmission distance of detector to panel is too short	• a nearby emitter is sending code • Panel receiver stoppage • standby battery of the Panel insufficient	• move one detector next to panel and try • identify the interfering source and eliminate it • check Panel power whether plugged well
8. the signal LED blinking quickly	• SIM card un-loaded • SIM card is setting PIN code • GSM signal weak	• reload SIM card • cancel PIN code of SIM • change to place with strong signal

Suggested TEXT TEMPLATES for your phone;

	TEXT
Set alarm	12341# ALARM ON
Unset Alarm	12340# ALARM OFF
Relay On (Heating)	12343# HEATING ON
Relay Off (Heating)	12344# HEATING OFF

Alarm Status Enquiry	123420# ALARM STATUS
Alert & Alerting Number	123421# ALERT/ALERTING No.
Add Phone No1 .for SMS	123437**********# 1st SMS phone No.
Add Phone No.2 for SMS	123438**********# 2nd SMS phone No.